

Appln. No. 10/730,784
Amendment filed November 30, 2005
Response to Office Action mailed on July 5, 2005

REMARKS

Claims 1, 2 and 4-25 are pending in this application. Claim 3 has been cancelled, claims 1-16 were rejected, and claims 17-25 are newly-presented. Claim 1 has been revised to incorporate the subject matter of cancelled claim 3 and various changes of form have been made to claims 1, 2, 4-12 and 14-16. Claims 1, 5 and 14 are independent.

Neither the changes to claims 1, 2, 4-12 and 14-16 nor new claims 17-25 are believed to introduce any new matter.

Claims 5, 7-9 and 11-15 have been rejected under 35 U.S.C. § 102(a) as being anticipated by European Patent Appln. 1 258 359 A1 to Hara et al.¹ Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Applicants' invention, as described in claim 5, relates to a valve unit accommodated within a liquid cartridge body which includes a liquid containing section that contains liquid therein and a liquid supplying section that supplies the liquid to outside of the cartridge body. Such a valve unit has a valve member which is elastically deformable to open when there is a sufficient pressure difference between the liquid containing section and the liquid supplying section, the valve member having a cylindrical peripheral edge, a valve lid having a substantially cylindrical valve member holding part disposed within the peripheral edge of the valve member to fix the peripheral edge, and an urging member provided between the valve member and valve lid to urge the valve member in a direction away from the valve lid.

¹ Both Hara and Yonekubo, discussed below, are commonly assigned along with the present application. To the extent this response discusses Hara or Yonekubo, such discussion involves the general teachings of those references, and should not be construed to limit the scope of the claims of those references or their counterparts. If Hara or Yonekubo is characterized as teaching a particular feature, the claims of those patents should not be construed to require that feature unless the feature is specifically recited in the claims. Claims of a patent are not limited to embodiments disclosed, and limitations in the specification are not to be imported into the claims. Also, an inventor need not foresee all uses for the invention.

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Claim 14 is directed to a method for manufacturing a liquid cartridge, which includes a liquid containing section for containing a liquid, a cartridge body having a liquid supplying part that supplies the liquid in the liquid containing section to outside, a wall face, and a concave part formed in the wall face of the cartridge body, the concave part itself having a wall face, and a valve unit with a valve member contained in the cartridge body and which opens when a sufficient pressure difference between the liquid containing section and liquid supplying part occurs. The valve member has a peripheral edge part, of which a peripheral edge is cylindrical in shape, and which is elastically deformable based on the pressure difference. This method includes the steps of preparing the cartridge body having the liquid containing section and a valve unit containing section, which is the concave part formed in the cartridge body, communicating with the liquid containing section, forming a valve unit by putting an urging member, which urges the valve member in a direction away from the valve lid, between the valve member and a valve lid having a substantially cylindrical valve member holding part that fixes the peripheral edge part by being inserted into the peripheral edge part of the valve member, and attaching the valve unit to the valve unit containing section.

It will be appreciated that, according to the invention of claims 5 and 14, the valve lid includes a substantially cylindrical valve member holding part fitting inside of the peripheral edge of the valve member to fix the peripheral edge. By virtue of this structure, it is possible to assemble easily the valve unit, with a coil spring located between the valve lid and valve member.

In contrast, in Hara, the lid body 53 (valve lid) shown in Fig. 7 does not include a substantially cylindrical valve member holding part inserted inside of the peripheral edge of a membrane valve 52 (valve member) to fix the peripheral edge.

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So given Hara's teachings, the configuration recited in Claims 5 and 14 is not disclosed, meaning Hara in no way anticipates or even suggests at least those aspects of the claimed invention just discussed.

The remaining rejected claims all ultimately depend from and so incorporate by reference all the features of claims 5 or 14, including those features just shown to patentably distinguish over Hara. These claims therefore patentably distinguish over Hara at least for the same reasons as their respective base claims.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 1-7 and 10-16 have been rejected under 35 U.S.C. § 102(a) as being anticipated by Japanese Laid-Open Patent Appln. No. 2002-205413 to Yonekubo.² Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claims 5 and 14 already have been summarized in connection with the foregoing rejection based upon Hara, and for the sake of brevity, reference is now made to those earlier summaries.

Applicants' invention, as set out in claim 1, involves a liquid cartridge with a liquid containing section for containing liquid, a cartridge body having a liquid supplying part that supplies the liquid in the liquid containing section to outside, a wall face, and a concave part formed in the wall face of the cartridge body, the concave part itself having a wall face, and a valve member contained in the concave part of the cartridge body and which opens when a

² This reference was cited by Applicants in the Information Disclosure Statement filed on April 2, 2004; owing to an inadvertent typographical error, this reference was identified on the Information Disclosure Statement by Applicant form (PTO/SB/08a) as "JP-2002-2-5413-A", when it should have read -JP-2002-205413-A-. If the Examiner wishes and so requests, the undersigned would be glad to provide a corrected copy of the Information Disclosure Statement by Applicant form.

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sufficient pressure difference between the liquid containing section and liquid supplying part occurs. The liquid cartridges also has a valve lid that holds the valve member by being fitted into the concave part and also presses an outer circumference of the valve member toward the wall face of the concave part, a projection formed on a surface of the wall face in the concave part, the valve member contacting the projection to be in pressure contact with the valve member along the outer circumference of the valve member, and a seal member that urges an outer surface of the valve lid opposite to a surface, on which the valve member is provided, and a wall face of the cartridge body around the outer surface of the valve lid in a direction so that the valve lid is in contact with the projection.

Thus, it will be appreciated that claim 1 provides for a valve member contained in a concave part formed in the cartridge body. Also, claim 1 has a valve lid for holding the valve member by being fitted into the concave part.

In contrast to the present invention, Yonekubo teaches that a valve member 15 (Fig. 3a and 3b) is contained in a concave part of the element on the left-hand side in the drawing, which also defines the opening 11. The only element which could be considered as a valve lid is the element shown on the right-hand side, which in Fig. 6 is marked by the reference sign 20. However, as is clearly shown in Fig. 3, this element is not fitted into the concave part. Further, Claim 1 provides that the valve lid presses an outer circumference of the valve member toward a wall face of the concave part. But if the element considered to be the valve lid clamps or sandwiches the valve member between the element having the concave part and the valve lid, it is not apparent how the valve lid would press an outer circumference of the valve member toward a wall face of the concave part.

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For the foregoing reasons, claim 1 patentably distinguishes over the teachings of Yonekubo.

Moreover, it will be appreciated that the features of claim 3 have been incorporated into Yonekubo, and that those features themselves patentably distinguish over this reference.

With regard to claim 5, it should be noted that claim 5 states the valve member has a cylindrical peripheral edge. In Yonekubo, the outer portion of the valve member 15 (Fig. 3) is arguably a peripheral edge and the element on the right-hand side (element 20 in Fig. 6) is considered as a valve lid. However, claim 5 provides that the urging member is provided between the valve member and the valve lid. Accordingly, the claim feature providing that for a valve lid with a substantially cylindrical valve member holding part inserted inside the peripheral edge of the valve member for fixing the peripheral edge is not even suggested by Yonekubo. Rather, as it is clear from Fig. 6 of Yonekubo, element 20 is not even inserted in any part of the valve member 15, and consequently, also does not fix the peripheral edge of the valve member 15. In addition, within the meaning of the present invention, it is not appropriate to consider just the outer portion of the valve member 15 to be a peripheral edge.

For all the foregoing reasons, claim 5 patentably distinguishes over Yonekubo.

Applicants further submit that claim 14 patentably distinguishes over Yonekubo for the reasons already given in connection with claims 1 and 5.

The remaining rejected claims all ultimately depend from and so incorporate by reference all the features of claims 5 or 14, including those features just shown to patentably distinguish over Yonekubo. These claims therefore patentably distinguish over Yonekubo at least for the same reasons as their respective base claims.

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Newly-presented claims 17-25 all ultimately depend from claims which have just been shown to avoid the cited art. Accordingly, new claims 17-25 are likewise allowable.

CONCLUSION

Applicants respectfully submit that all outstanding rejections have been addressed and are now overcome. Applicants further submit that all claims pending in this application are patentable over the prior art. Favorable reconsideration and withdrawal of those rejections and objections is respectfully requested.

Other than the fee for the requisite extension of time authorized in the Petition for Extension of Time Under 37 C.F.R. 1.136(a) submitted herewith, and the fee for the newly-presented claims authorized in the accompanying Fee Transmittal form, no fees are believed to be due in connection with the filing of this paper. Nevertheless, the Commissioner is authorized to charge any fees now or hereafter due in this application to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,



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